

UNDERGARMENTField of the Invention

The present invention relates to an undergarment and,
5 more particularly, to an undergarment adapted for maintaining an
outer garment spaced from a wearer.

Background of the Invention

When a person is engaged in a physical activity, sweat
10 perspiring from the person may cause outer clothing to stick or
cling to the person's body or undergarment, restricting free
bodily movement. In order to avoid such restriction, the person
may pull or flap parts of the outer clothing such that it is
detached from the undergarment or the wearer's body. While such
15 pulling or flapping may temporarily release the outer clothing
from the wearer's body, the outer clothing may subsequently
stick or cling to same.

U.S. Patent No. 962,900 discloses an undergarment
constructed such that air can freely circulate therethrough.
20 More particularly, the undergarment has a body and sleeves
formed of a plurality of strips arranged in a network forum.
Pieces of cork are mounted on the strips for holding the
undergarment spaced from the wearer's body and also from an
outer garment. Because the cork pieces are permanently attached

to the strips, they are not adapted for removal or replacement. Moreover, the cork pieces can wear out after repeated use. In addition, the cork pieces can be damaged while the undergarment is processed in an automatic washer or drier.

5 In the foregoing circumstances, there is a need for an improved undergarment overcoming the problems and disadvantages discussed above. Such an undergarment may be especially suitable for use by athletes, such as golfers, tennis players, etc.

10 Summary of the Invention

 The present invention overcomes the disadvantages and shortcomings discussed above by providing an improved undergarment. More particularly, the undergarment includes a
15 substantially flexible frame and a plurality of projecting members extending outwardly from the frame for maintaining an outer garment spaced from the body of a wearer. At least some of the projecting members are removably attached to the frame, whereby the projecting members can be replaced with replacement
20 parts or members. In accordance with one feature of the present invention, the frame is constructed from a plurality of strips made from a textile material.

Brief Description of the Drawings

For a more complete understanding of the present invention, reference is made to the following detailed description of exemplary embodiments considered in conjunction
5 with the accompanying drawings, in which:

FIG. 1 is a perspective view of an undershirt constructed in accordance with a first embodiment of the present invention;

FIG. 2 is a front elevational view of the undershirt
10 shown in FIG. 1;

FIG. 3 is a rear elevational view of the undershirt shown in FIG. 1;

FIG. 4 is a left side elevational view of the undershirt shown in FIG. 1;

15 FIG. 5 is a right side elevational view of the undershirt shown in FIG. 1;

FIG. 6 is a top plan view of the undershirt shown in FIG. 1;

FIG. 7 is a bottom plan view of the undershirt shown
20 in FIG. 1;

FIG. 8 is a view of a projecting member and a post utilized in the undershirt shown in FIGS. 1-7, the projecting member being shown detached from the post;

FIG. 9 is an assembled view of the projecting member and the post shown in FIG. 8;

FIG. 10 is an enlarged view of an upper portion of the undershirt shown in FIG. 2;

5 FIG. 11 is a top plan view of a shoulder band which is removably attached to the undershirt shown in FIGS. 1-7;

FIG. 12 is a cross-sectional view, taken along section line 12-12 and looking in the direction of the arrows, of the undershirt shown in FIG. 10;

10 FIG. 13 is a perspective view of an undershirt constructed in accordance with a second embodiment of the present invention;

FIG. 14 is a front elevational view of the undershirt shown in FIG. 13;

15 FIG. 15 is a rear elevational view of the undershirt shown in FIG. 13;

FIG. 16 is a left side elevational view of the undershirt shown in FIG. 13;

20 FIG. 17 is a right side elevational view of the undershirt shown in FIG. 13;

FIG. 18 is a top plan view of the undershirt shown in FIG. 13; and

FIG. 19 is a bottom plan view of the undershirt shown in FIG. 13.

Detailed Description of the Invention

With reference to FIGS. 1-7, there is shown an undershirt 10 constructed in accordance with a first embodiment of the present invention. The undershirt 10 includes a substantially flexible supporting frame 12 and sized and shaped so as to be worn on an upper body of a wear. The supporting frame 12 is constructed of a plurality of transverse and longitudinal strips 14, 16, each of which are made from a suitable flexible fabric or textile material, such as cotton, nylon, etc. The transverse and longitudinal strips 14, 16 are arranged in a predetermined fashion and are attached to their corresponding strip or strips in a conventional manner (e.g., via stitching) so as to define the supporting frame 12. For instance, the transverse strips 14 include bottom transverse strips 14a, 14b, respectively, attached to one another and defining a bottom end 18 of the supporting frame 12. The transverse strips 14 also include a transverse collar strip 14c and a pair of transverse shoulder strips 14d, 14e (see also FIG. 10), each of which is positioned at or adjacent an upper end 20 of the supporting frame 12 and cooperating to define shoulder portions 22 thereof. The longitudinal strips 16 include curved longitudinal collar strips 16a, 16b, which cooperate with the transverse collar strip 14c to define a collar portion 24 of the supporting frame 12. The longitudinal strips 16 also include a

pair of curved longitudinal sleeve strips 16c, 16d, which cooperate to define a sleeve end portion 26 of the supporting frame 12, and a pair of curved longitudinal sleeve strips 16e, 16f, which cooperate to define a sleeve end portion 28 of the supporting frame 12. Each of the sleeve end portions 26, 28 is adapted to receive a corresponding one of the arms of a wearer therethrough.

Still referring to FIGS. 1-7, each of the transverse and longitudinal strips 14, 16 of the supporting frame 12, with the exception of the bottom transverse strips 14a, 14b, the transverse collar strip 14c and the transverse shoulder strips 14d, 14e, is provided with a plurality of projecting members 30 (e.g., buttons, caps, studs) attached thereto. Each of the projecting members 30 is permanently attached to an outer side 32 (see FIGS. 8 and 9) of a corresponding one of the transverse and longitudinal strips 14, 16 in a conventional manner. For instance, a conventional post or eyelet 34 can be positioned on an inner side 36 of a corresponding one of the transverse and longitudinal strips 14, 16 and extend therethrough to fixedly engage a corresponding one of the projecting members 30 (see FIGS. 8 and 9). Each of the projecting members 30 extends substantially outwardly from its corresponding transverse or longitudinal strip 14, 16 so as to keep an outer garment worn by a wear from the wearer's body or skin as will be discussed in

greater detail hereinafter. The projecting members 30 can be made from any conventional materials (e.g., plastic, metal or stones), which are preferably resistant to wear. Further, the projecting members 30 are preferably made such that their upper
5 surfaces 38 (see FIG. 9) are smooth or polished so as to facilitate the sliding movement of an outer garment over the supporting frame 12 of the undershirt 10. The projecting members 30 can also be surface-treated in a conventional manner such that the upper surfaces 38 are made slippery to further
10 facilitate the sliding movement of an outer garment over the supporting frame 12.

With reference to FIGS. 1, 2, 10 and 11, the undershirt 10 also includes a shoulder band 40 which is provided with a plurality of projecting members 42 permanently attached
15 to an outer or upper side of the shoulder band 40. Each of the projecting members 42 can be made from any suitable materials, including, but not limited to, materials that are believed or speculated as having a medicinal or beneficial effect to human health (e.g., jade, tourmaline, magnet, bioceramics, biodynamic
20 stones, etc.). The projecting members 42 can also be made from precious metals or stones for ornamental purposes and/or can be painted or coated with a predetermined color.

The shoulder band 40 is removably attached to the transverse collar and shoulder strips 14c, 14d, 14e of the

supporting frame 12. While any conventional mechanisms can be used to removably attach the shoulder band 40 to the supporting frame 12, snap-type fasteners used in the textile industry are especially suitable for use in connection with the present invention. For instance, with reference to FIGS. 10-12, each of the projecting members 42 can be attached to the shoulder band 40 via a socket 46 of a snap-type fastener located on an inner or lower side 48 of the shoulder band 40. Snap-type studs 50 can be permanently mounted on the transverse collar and shoulder strips 14c, 14d, 14e of the supporting frame 12 in a conventional manner such that each of them can releasably engage a corresponding one of the sockets 46 of the shoulder band 40. In this manner, the shoulder band 40 is removably attached to the supporting frame 12.

With reference to FIGS. 1-7, the undershirt 10 also includes a pair of sleeves 52, 54 removably attached to the supporting frame 12. The sleeve 52 has a substantially linear strip 56 and a pair of curved strips 58 attached to the linear strip 56. The linear strip 56 has an upper end 60 which is removably attached to the transverse shoulder strip 14d (see also FIG. 10) in a conventional manner (e.g., via a conventional snap-type or Velcro-type fastener). Each of the curved strips 58 also has ends 62, 64 which are removably attached to the longitudinal sleeve strips 16c, 16d, respectively, in a

conventional manner (e.g., via a conventional snap-type or Velcro-type fastener). In this manner, the sleeve 52 can be removed from the supporting frame 12 when it is not needed by the wearer. The sleeve 52 is also provided with a plurality of
5 projecting members 65 which are permanently mounted to the strips 56, 58 in the same basic manner as the projecting members 30 of the supporting frame 12.

Still referring to FIGS. 1-7, the sleeve 54 has a substantially linear strip 66 and a pair of curved strips 68
10 attached to the linear strip 66. The linear strip 66 has an upper end 70 which is removably attached to the transverse shoulder strip 14e (see also FIG. 10) in a conventional manner (e.g., via a conventional snap-type or Velcro-type fastener). Each of the curved strips 68 also has ends 72, 74 which are
15 removably attached to the longitudinal sleeve strips 16e, 16f, respectively, in a conventional manner (e.g., via a conventional snap-type or Velcro-type fastener). In this manner, the sleeve 54 can be removed from the supporting frame 12 when it is not needed by the wearer. The sleeve 54 is also provided with a
20 plurality of projecting members 75 which are mounted to the strips 66, 68 in the same basic manner as the projecting members 30 of the supporting frame 12.

The supporting frame 12 is also provided with a zipper-type fastener 76 (see FIG. 1) to facilitate the

undershirt 10 to be worn by a person. More particularly, the fastener 76 includes a pair of mating strips attached to a corresponding pair of the longitudinal strips 16 of the supporting frame 12.

5 It should be appreciated that the present invention provides numerous advantages. For instance, because of the projecting members 30, 42, 65, 75, an outer garment worn by a wearer is maintained in a spaced manner relative to the undershirt 10 or the wearer's body. In such circumstances, the
10 outer garment is inhibited from coming in contact with sweat perspiring from the wearer and/or from clinging to the wearer's body or undershirt 10, thereby facilitating free bodily movement by the wearer. Further, the spaced relationship between the outer garment and the wearer's body promotes air circulation and
15 hence the cooling of the wearer's body.

Besides the advantages discussed above, the shoulder band 40 provides additional benefits. For instance, because the shoulder band 40 is removably attached to the supporting frame 12, it can be easily removed and replaced with a replacement
20 shoulder band having projecting members which are made from different materials and/or which have different sizes (e.g., heights), constructions, colors, characteristics, etc. As a result, the undershirt 10 is adapted to accommodate user preferences. In this regard, the undergarment 10 can be

provided with an array of shoulder bands, each of which includes a particular set of projecting members.

It should be noted that the present invention can have numerous modifications and variations. For instance, the
5 shoulder band 30 can be eliminated. In such circumstances, the projecting members 42 can be directly and removably attached to the supporting frame 12 without the shoulder band 30. One or more of the projecting members 30, 65, 75 (e.g., the projecting members 30 positioned adjacent to the wearer's shoulder and
10 chest) can also be provided with mechanisms similar to the shoulder band 40 such that they are removably attached to the supporting frame 12 and/or be made from a material similar to the projecting members 42 (e.g., natural jade). Moreover, the bottom transverse strips 14a, 14b can be provided with
15 projecting members. In addition, the projecting members 30, 42, 65, 75 can be provided with different heights. Further, the sleeves 52, 54 can be permanently attached to the supporting frame 12 and be an integral part thereof. The present invention can also be used in conjunction with different types of
20 undergarments (e.g., underpants, etc.).

FIGS. 13-19 illustrate an alternate embodiment of the present invention. Elements illustrated in FIGS. 13-19, which correspond, either identically or substantially, to the elements described above with respect to the embodiment of FIGS. 1-12,

have been designated by corresponding reference numerals increased by one hundred. Unless otherwise stated, the embodiment of FIGS. 13-19 are constructed and assembled in the same basic manner as the embodiment of FIGS. 1-12.

5 With reference to FIGS. 13-19, there is shown an undershirt 110 constructed in accordance with a second embodiment of the present invention. The undershirt 110 has a supporting frame 112 made from a plurality of transverse and longitudinal strips 114, 116. The undershirt 110 also includes
10 one or more fishnet-type fabric sheets 180 attached (e.g., stitched) to the transverse and longitudinal strips 114, 116 so as to cover openings 182 formed by the strips 114, 116. Because the fabric sheets 180 provide additional support to the supporting frame 112, one or more of the strips 114, 116 can be
15 eliminated from the supporting frame 112 or can be provided with a width smaller than the width of the strips 14, 16 of the embodiment shown in FIGS. 1-12. The fishnet-type fabric sheets 180 can also be replaced with other types of fabrics or materials permitting free air flow therethrough.

20 It will be understood that the embodiments described herein are merely exemplary and that a person skilled in the art may make many variations and modifications without departing from the spirit and scope of the invention. All such variations and modifications, including those discussed above, are intended

to be included within the scope of the invention as defined by the appended claims.